

REMARKS

Claims 1, 5, 11-12 and 14-15 stand rejected under 35 U.S.C. 103(a) as being obvious over Lakshmikumaran et al. (U.S. Patent No. 6,282,055). Applicant respectfully traverses the rejection because Lakshmikumaran fails to suggest a head “wherein each of said grooves has a width which is greater than or equal to a width of an entire wall separating said grooves on both sides of each said read/write gap line, at a depth which is greater than or equal to said width of said grooves.”

FIGs. 2 and 5 of the present application illustrate one embodiment of a head for magnetic tape which has a depth of a groove “d” that is greater than or equal to a width of a groove “w”. The width of the groove “w” is greater than or equal to a width of an entire wall separating the grooves “g”. That is, $d \geq w \geq g$. Configuring the grooves 5 in this manner, and in particular the width and depth of the grooves, influences the amount of tape floating that occurs when the magnetic tape is traveling at a high rate of speed. That is, the amount of tape floating does not appreciably increase when the traveling speed of the magnetic tape is increased. However, when the width “w” and the depth “d” do not satisfy the above conditions, then the amount of tape floating can increase with an increase in the traveling speed of the magnetic tape. (See Applicant’s specification, page 4, line 11 to page 5, line 3).

The present invention produces an unexpected result. FIG. 3 summarizes test results based on a relationship between a traveling speed of the magnetic tape, as shown along the x-axis, and the amount of tape floating over a running surface, as shown along the y-axis. In particular, an increase in the amount of tape floating occurs upon an increase in the

traveling speed of the magnetic tape when the head does not satisfy the above condition (i.e., “d”, “w” and “g” relationship), as seen in the marked-up copy of FIG.3 shown below. The nominal increase in tape floating produced by the present invention is also shown. This dramatic improvement is unexpected and surprising.

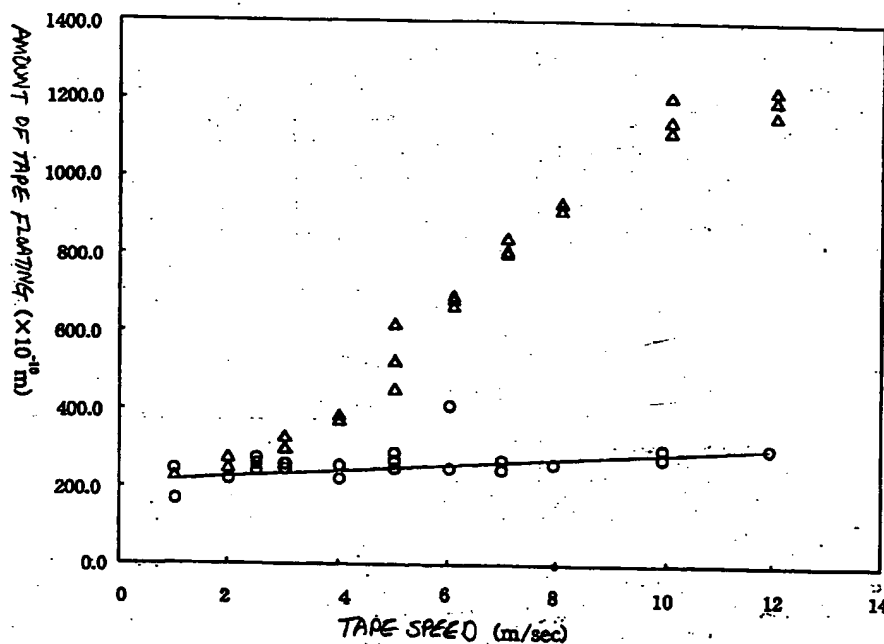


FIG. 3

In contrast, Lakshmikumaran fails to disclose or suggest any specified relationship between the width and depth of the grooves in combination with a width of a wall portion between two grooves of each chip assembly. Lakshmikumaran merely discloses that other locations and dimensions of the transfer slots 20 and 38 and slotted regions 22 may be used. No disclosure of a relationship between “d”, “w”, and “g” is disclosed or suggested. The Examiner considers it within the knowledge of a skilled artisan to modify the dimensions

appropriately to obtain the condition recited in the present invention, but the argument is unsupported and uses impermissible hindsight.

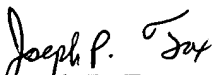
Moreover, nowhere does Lakshmikumaran teach or suggest the unexpected result shown in FIG. 3 of Applicant's specification. When the prescribed width "g" of the wall portion between grooves having a width "w" and a depth "d" meeting the above condition, as described in Applicant's specification, tape floating unexpectedly does not appreciably increase when the traveling speed of the magnetic tape is increased.

For these reasons, withdrawal of the §103 rejection of claims 1, 5, 11-12 and 14-15 is respectfully requested.

For all of the foregoing reasons, Applicant submits that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By 
Joseph P. Fox
Registration No. 41,760

June 1, 2004

300 South Wacker Drive - Suite 2500
Chicago, Illinois 60606
Tel: (312) 360-0080
Fax: (312) 360-9315
Customer No. 24978
P:\DOCS\0671\66008\521620.DOC